

SREB'S NUMERACY RECOMMENDATIONS

Recommendation 1: Collaborate with SREB's Leadership Initiative to conduct a two-part staff development series on Numeracy Leadership. This 3+1 design asks a leadership team to come to a common definition of numeracy, to take stock of the current status of numeracy in their school, and to formulate an action plan for numeracy.

Recommendation 2: Designate a cross-curricular numeracy leadership team with the following charge:

1. Meet as a numeracy team on a regular, frequent basis; ensure that all team members are accountable for accomplishing tasks according to the timeline that has been established.
2. Design and implement a series of exercises, readings, and/or meetings to build a sense of urgency around improving all students' numeracy.
3. Initiate other professional development activities to increase school competence in numeracy instruction and numeracy practices.
4. Establish at least one school wide numeracy-related activity monthly and gather data related to this activity.

Recommendation 3: Collect data specifically dealing with numeracy. Sources might include:

- Disaggregated student achievement data (criterion-referenced and norm-referenced)
- Amount of time devoted to various topics, concepts, and skills
- Disaggregated data on number of students on track to complete a year of algebra before high school (ES and MS) and enter post-secondary studies without requiring remediation (HS)
- Amount of time math teachers spend in common planning
- Teacher qualifications
- Observation data on the use of best practices in classrooms (Mathematics Teacher Rounds protocol attached.)

- Survey data
- Data on amount and use of homework
- Analysis of student work

Recommendation 4: Determine best practices for numeracy and implement them over time across the school. Examples might include:

1. We evaluate the processes for placing students in mathematics classes to ensure that groups of students are not being excluded from a challenging mathematics program.
2. We have established teacher leaders or mathematics specialists who can mentor and support teachers.
3. We spend time observing mathematics classrooms.
4. We ensure that decisions about placing students in mathematics classes and evaluation of teachers' effectiveness are not based on a single test.
5. Teachers use a variety of classroom assessment methods that measure conceptual understanding along with factual and procedural understanding.

Recommendation 5: Analyze the mathematics curriculum to determine its coherence and rigor. Specifically, address the following questions:

- Are our mathematics standards clear? Have we “unwrapped” them enough so that everyone shares a common understanding of what they mean and how student performance will be assessed and evaluated?
- Do we focus on the right standards at each grade level—building on what has been learned and building toward what will be learned in the future?
- Does our instruction support attainment of the standards? Do we employ research-based best practices in our lessons? (Lesson Checklist available in planner.)

Recommendation 6: Administer the three numeracy surveys listed below that are included as appendices.

- Numeracy Survey for Teachers. Ask teachers to complete this survey.
- Numeracy Survey for School Leaders. All leaders should complete this survey. Consider the whole school as you complete the survey.
- Numeracy Survey for Students. Have each mathematics teacher ask all the students in one classroom to complete this survey. Follow up by discussing the survey questions and probing for more details, with two

students— one who is an excellent mathematics student and one who struggles.

Recommendation 7: Take a detailed look at student preparation for Algebra I by using SREB's guide, *Getting Students Ready for Algebra I: What Middle Grades Students Need to Know and Be Able to Do*. (available at www.sreb.org.) This report provides five process and 12 content indicators that will provide the school with a benchmark to use in placing students in Algebra I.

NUMERACY SURVEY FOR TEACHERS

Directions: Please complete the following survey regarding your own practices as a teacher.

1. Do you like math?	Yes Somewhat No
2. Do you require students to use mathematical thinking outside of formal mathematics instruction?	Yes Somewhat No
3. Do most of your students use "quantitative literacy" to make sense of data that is around them, such as newspaper articles?	Yes Somewhat No
4. What percentage of your in-class mathematics problems and homework assignments are from the mathematics textbook?	_____
5. What types of numeracy materials (magazines, books, Internet, etc.) do you require students to analyze?	_____
6. Do you observe mathematics lessons at higher and lower grade levels than your own?	Yes Somewhat No
7. Are you aware of the mathematics assignments and assessments of students at higher and lower grade levels than your own?	Yes Somewhat No
8. What percentage of your students do you expect to meet or exceed all mathematics curriculum standards by the end of the year?	_____
9. How often do you collaborate with other teachers to develop, discuss, and evaluate strategies for improving numeracy skills?	_____
10. What activities have you completed in the past year to increase your own personal mathematics knowledge?	_____
11. What activities have you completed in the past year to increase your pedagogical knowledge?	_____
12. Do you differentiate instruction based on the reading levels and mathematics capabilities of students?	Yes Somewhat No

NUMERACY SURVEY FOR SCHOOL LEADERS

1. Is numeracy emphasized in your school improvement plan?	Yes Somewhat No
2. Does the school collect data on numeracy indicators, such as the number of students in every class who meet each standard each month?	Yes No
3. Does the school have formal goals for numeracy?*	Yes Somewhat No
4. Does the school have formal standards for numeracy practice?*	Yes No
5. Does the faculty, in general, use research-based strategies for improving numeracy skills?	Yes Somewhat No
6. Does the school environment and school culture promote numeracy?	Yes Somewhat No
7. Would a visitor walking through your school be able to see and understand that numeracy is a strong focus here?	Yes Somewhat No
8. Do you use common planning time to ensure that teachers collaborate on teaching strategies?	Yes No
9. If yes to previous question, is that time used effectively?	Yes Somewhat No
10. Are teachers and administrators frequently observed demonstrating the value of numeracy through real-life examples?	Yes Somewhat No
11. Does your school have a numeracy coach?	Yes Somewhat No
12. In your opinion, what percentage of students are capable of meeting national mathematics standards	

(i.e., NCTM), given the right instruction?	
13. In your opinion, what percentage of your faculty accepts responsibility for increasing the mathematics achievement of <i>all students</i> in your school, even those students not in their classes?	
14. Are numeracy practices rewarded in your school?	Yes Somewhat No

NUMERACY SURVEY FOR STUDENTS

1. Do you like math?	<div style="text-align: center;">Yes</div> <div style="display: flex; justify-content: space-between;"> Somewhat No </div>
2. Do you spend time in mathematics class exploring interesting problems?	<div style="display: flex; justify-content: space-between;"> All the time Often </div> <div style="display: flex; justify-content: space-between;"> Sometimes Never </div>
3. Do you spend time talking and writing about the mathematics you learn?	<div style="text-align: center;">Yes</div> <div style="display: flex; justify-content: space-between;"> Somewhat No </div>
4. Do you feel like you understand <i>why</i> mathematics works the way it does? For example, can you explain why different approaches work?	<div style="text-align: center;">Yes</div> <div style="display: flex; justify-content: space-between;"> Somewhat No </div>
5. Does your teacher like math?	<div style="text-align: center;">Yes</div> <div style="text-align: center;">No</div>
6. In math, is there usually one right way to get an answer or many ways to figure something out?	<div style="text-align: center;">One way</div> <div style="text-align: center;">Many ways</div>
7. Once you are an adult, how important do you think mathematics will be in your life?	<div style="display: flex; justify-content: space-between;"> Very Somewhat </div>

8. Do you think that you will be able to complete the highest level of mathematics that your school offers?	Yes No Maybe